



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/283,233	04/01/1999	TADAKUNI NARABU	SON-1532	9698

7590 04/08/2004

RONALD P KANANEN
RADER FISHMAN AND GRAUER
THE LION BUILDING
1233 20TH STREET N W SUITE 501
WASHINGTON, DC 20036

EXAMINER

WILSON, JACQUELINE B

ART UNIT	PAPER NUMBER
----------	--------------

2612

DATE MAILED: 04/08/2004

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/283,233

Applicant(s)

NARABU, TADAKUNI

Examiner

Jacqueline Wilson

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/22/04
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-11,13 and 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 3-5 is/are allowed.
- 6) ☒ Claim(s) 6-11,13 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION III

Response to Arguments

1. Applicant's arguments filed 1/22/04 have been fully considered but they are not persuasive.

Regarding Claim 6, the applicant misinterpreted the examiner response with respect to the discussion of the illuminator. The applicant states that Kashitani et al. photodiode array 35 is not analogous to the plurality of illuminators. The examiner agrees. However, the examiner indicates that fig. 1 shows an illuminator (7), and that although one illuminator is disclosed, would have been an obvious matter of design choice at the time the invention was made to include a plurality of illuminators as desired by the manufacturer. As for the added limitation of "an external interface within the housing..." the examiner refers to col. 5, lines 36+. Kashitani et al teaches that the housing (4) includes a control unit (40). This control unit (40) includes an external interface (54) within the housing through which image pickup information is transmitted to the outside. Therefore, the rejection of Claim 6 is maintained.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2612

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6, 8, 9, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kashitani et al. (US 5,625,183).

Regarding Claim 6, Kashitani et al.'183 teaches a housing (referred to as a scanner unit 4) having a slender incidence window (see fig. 1, 9) to pass image pickup light from a subject there through into the housing, a mirror body (10) which has mirror faces for reflecting the image pickup light from the incidence window and rotatably or swingably provided in the housing (15), a linear sensor (referred to as linear CCD 12) for taking the image pickup light reflected from the mirror body to subject the image pickup light to photoelectric conversion, and an illuminator (fig. 1, 7). This light source is present for the purpose of illuminating a scene/object at the time image pickup is performed. Although Kashitani et al.'183 does not teach a plurality of illuminators, it would have been an obvious matter of design choice at the time the invention was made to include a plurality of illuminators as desired by the manufacturer. Therefore, it would have been obvious to one having ordinary skill in the art to modify Kashitani et al.'183 by including a plurality of illuminators for lighting up the subject.

Furthermore, Kashitani et al.'183 teaches information output from the linear sensor is sent to the outside (col. 5, lines 36+). This indicates that a communication means is present so that the information is able to be sent to an external device.

Regarding Claim 8, Kashitani et al.'183 teaches a mirror body is a flat plate (10) having one face or both faces being formed of mirror faces and a shaft (15) formed along the mirror body is rotatable or swingable around the shaft and wherein the

Art Unit: 2612

incidence window (9) is formed so that the length direction is substantially parallel to the shaft of the mirror body (see fig. 1).

Regarding Claim 9, Kashitani et al.'183 teaches a first driving means (control unit 40; col. 3, lines 28+), and a second driving means (col. 3, lines 19+). However, Kashitani et al.'183 fails to specifically disclose a timing signal generating means for outputting timing signals to the first driving means and the second driving means so that the illuminators are successively turned on at a predetermined timing with respect to the rotational or swinging motion of the mirror body. However, it would have been obvious to use a timing signal generating means (within the control unit 40) for outputting timing signals to the first and second driving means. This enables the device to illuminate the object at the appropriate time of scanning an object. Proper lighting conditions would be advantageous while image pickup occurs. Therefore, it would have been obvious to one having ordinary skill in the art to have a timing signal generating means for outputting timing signals to the first and second driving means so that the illuminators are successively turned on at a predetermined time with respect to the rotational or swinging motion of the mirror body.

Regarding Claim 13, Kashitani et al.'183 teaches a semiconductor image pickup element (referred to as linear CCD image pickup sensor 12).

Claims 7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kashitani et al.'183 and Kenji.

Regarding Claim 7, Kashitani et al.'183 fails to specifically disclose the mirror body is designed in a polygonal prism. However, Kenji teaches the mirror body is designed in a polygonal prism form (5A) and formed of the mirror faces on all the side peripheral surfaces thereof, and disposed so that the length direction thereof is substantially parallel to the length direction of the sensor (4) and provided so as to be rotatable around the center of a plane (see Constitution) which is substantially perpendicular to the length direction of the mirror body (see fig. 1). By using this polygonal mirror, the optical axis is deflected in a similar manner as the mirror body of Kashitani et al.'183. One having ordinary skill would recognize using Kenji's polygonal mirror will provide an increase in scanning speed compared to a flat mirror body. Therefore, it would have been obvious to one having ordinary skill in the art to use a polygonal mirror in the device of Kashitani et al.'183 as a method of image pickup for providing a higher scan rate.

Claim 14 is analyzed and discussed with respect to Claims 6 and 7. (See rejection of Claims 6 and 7 above.)

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kashitani et al.'183 and Jones (US 5,993,077).

Regarding Claim 10, Kashitani et al.'183 fails to disclose support legs which are formed at the formation side of the incidence window of the housing so as to expand from the housing to the outside and support the housing, the support legs being retractably provided in the housing or detachably mounted to the housing. However,

Art Unit: 2612

Jones'077 teaches that it is well known in the art to have a stand for an optical device, such as a camera (12), which is detachable from the camera. With reference to figure 1, Jones'077 shows a camera (12) mounted on a support with legs (16) formed at the formation side of the incidence window. This aids the user in producing clear images of a scene, in this case for investigation purposes (col. 6, lines 28+). Therefore, it would have been obvious to one having ordinary skill in the art to have support legs which are formed at the formation side of the incidence window of the housing so as to expand from the housing to the outside and support the housing, the support legs being retractably provided in the housing or detachably mounted to the housing.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kashitani et al.'183 and Kashitani (US 5,757,518).

Regarding Claim 11, Kashitani et al.'183 does not specifically disclose a storage means for storing image pickup information. However, Kashitani '518 teaches a storage means (referred to image memory 54) for storing image pickup information output from a linear sensor (see fig. 6). This is advantageous so the information maintained for further processing. Storage means are notoriously well known in the art and would have been obvious in the system of Kashitani et al.'183 for storing image data. Therefore, it would have been obvious to one having ordinary skill in the art to further include a storage means for storing image pickup information output from the linear sensor.

Allowable Subject Matter

3. Claims 1 and 3-5 are allowed.

The prior art neither teaches nor fairly suggests an image input device including: a mirror body which is designed in a polygonal prism form, a linear sensor, a housing in which the mirror body and the linear sensor are accommodated and a slender incidence window for passing the image pickup light there through, as claimed in Claim 1, and support legs which are formed at the formation side of the incidence window of the housing so as to expand from the housing to the outside and support the housing, **the support legs being retractably provided in the housing.**

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 2612

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiries concerning this communication from the examiner should be directed to **Jacqueline Wilson** whose telephone number is (703) 308-5080. The examiner can normally be reached Monday-Friday (alternate Fridays off) from 9:00 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Wendy Garber**, can be reached at (703) 305-4929. The fax number for this group is (703) 308-5401.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or Faxed to:

(703) 308-5401, (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, V.A., Sixth Floor (Receptionist).

JBW

March 25, 2004


NGOC-YEN VU
PRIMARY EXAMINER